

PATENT
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(oracle01.026)

5 **Applicant:** Guay, et al. **Confirmation No.:** 3882
 Application No: 10/678,800 **Group Art Unit:** 2166
 Filed: 10/03/2003 **Examiner:** Navneet K. Ahluwalia
10 **Title:** *Preserving sets of information in rollup tables*

15 Commissioner for Patents
 Alexandria, VA 22313-1450

Brief for a pre-appeal brief conference

Introduction

20 Applicants were notified of a final rejection in the above application on 1/20/2010. The
 rejected claims included two independent claims, a method claim, 1, and a Beauregard claim,
 25, to a data storage device that contains code for performing the method of claim 1. The final
 rejection came after a second RCE in the application, followed by an interview with Examiner
25 in which Applicants agreed to amend their claims to clarify the claim term "metric value", and a
 response to a non-final Office action mailed June 23, 2009. In the response, Applicants
 amended their claims as agreed and traversed Examiner's rejection of all claims as obvious over
 the combination of Bakalash and Lore. These references have been in the prosecution since
 prosecution was reopened on 9/21/2007 after a first pre-appeal brief conference. Examiner and
30 Applicants have clearly reached an issue, and for that reason, Applicants are again requesting a
 pre-appeal brief conference. References to Applicants' Specification in the following are to
 paragraphs in its Patent Application Publication 2005/0076065, published April 7, 2005.

35 **Traversal of Examiner's rejection of the claims under 35 U.S.C. 103 as obvious over the
 combination of Bakalash and Lore**

Applicants' invention

Applicants' Abstract succinctly sets forth the techniques Applicants' claims are directed to:

40 Techniques for making aggregated entries in a database table which aggregate
 information from other entries in tables in the database system. The techniques

permit the aggregated entries to contain not only metric values aggregated from the other entries by techniques such as averaging in which the individual values are lost, but also sets of individual values from the other entries.

5 Applicants' FIG. 2 shows a prior-art table 111 which aggregates the hits which a page hit table 101 recorded on internet pages. There is an entry in table 101 for each hit on each page; the entry includes the time the hit occurred. In page hit rollup table 111, there is only one entry per page and the entry gives only the number of hits on the page over a period of time X. As set forth at [0008], table 111 is much smaller than table 101, but nothing is preserved in table 111
10 concerning the times at which the hits occurred. Applicants solve this problem by including a column in the rollup table which contains a set value which indicates the times at which the hits occurred. Applicant's FIG. 3 illustrates a preferred embodiment of the techniques. Fig. 3 is discussed beginning at [0031] of 2005/0076065. Page hit roll up table 301's entries are an embodiment of the aggregated entries of claim 1. What distinguishes them from table 101's
15 entries for rolled up page hit data, is that table 301's entries contain not just the number of hits field 115, which indicates the total number of hits during the time period covered by the table on the page URL indicated at 113, but also a value 303 which indicates the times at which the hits occurred during the time period represented by the entry. Two different ways of implementing value 303 are shown in FIG. 3; at 305 is shown a comma list of seconds indicating the times at
20 which the hits occurred; at 307 is shown a bitmap in which there is a bit for each second in the period; if the bit for a second is set, a hit occurred at the time indicated by the bit's second.

Claim 1 as currently amended

Claim 1 sets forth the techniques shown in FIG. 3 in straightforward fashion. The claim's
25 "metric value" is defined at [0008]. Claim 1 as currently amended reads as follows:

1 1. (currently amended) A method of aggregating a plurality of entries in a table in
2 a database management system into an aggregated entry (entry in table 301) in the
3 table or another table in the database management system, the method comprising
4 the step of:
5 making the aggregated entry, the aggregated entry representing the
6 plurality of entries and including a first field whose value is a metric value (115)
7 computed from a set of individual values of a field in the plurality of entries and
8 a second field whose value is a representation of the individual values (303), the
9 metric value having the property that the individual values from which the metric
10 value was computed cannot be derived from the metric value and the
11 representation of the individual values having the property that the individual
12 values are derivable therefrom.

Examiner's rejection of the claims in the Office action of June 23, 2009

In the Office action of June 23, Examiner responds to Applicants' argument in the *Submission* of the RCE that neither Bakalash nor Lore discloses the "aggregated entry" set forth in claim 1 by maintaining that Lore does disclose the aggregated entry. Given that the metric field portion of the aggregated entry is well-known in the art, the issue between Examiner and Applicant is thus whether Lore does in fact disclose the aggregated entry's "second field whose value is a representation of the individual values".

10 The disclosure of Lore

The first sentence of Lore's *Abstract* provides a broad overview of the technical area with which Lore is concerned:

15 An aggregation engine for a data warehouse which provides an indexing technique which allows the measures in a fact table data entry to be added to the appropriate aggregate bucket ...

Lore defines an "aggregate bucket" at [0013] as an "internal representation for each aggregated output fact record." As is apparent from the last sentence of paragraph [0248], the "aggregated output fact record" is a record which contains the result of an aggregation. In the terms used in Applicants' claims, the aggregate bucket contains the "metric value" resulting from the aggregation. See in this regard Lore's [0011]. There is simply no suggestion anywhere in Lore that the value represented by an "aggregate bucket" might be accompanied by anything like the "value [that] is a representation of the individual values" of Applicants' claims 1 and 25.

25 Detailed rebuttal of Examiner's rejection in her Response to Applicants' argument

In her *Response to Applicant's Argument* in the final Office action of 1/20/2010, Examiner cites paragraphs 125 and 191 of Lore. Paragraph 125 reads as follows in its entirety:

30 [0125] The relation table 4 has three primary uses. Firstly, it provides information about the number of aggregate records for each level so that the index table can be populated. Secondly, it computes indexes of detail and aggregate keys that, when combined with the data from the index table, are used to locate the address of the aggregation buckets in the address file and the entries in the memory cache. Thirdly, it provides the list of aggregate records into which a given detail record needs to be aggregated.

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Relation table 4 is shown in FIG. 2 of Lore and in detail in FIG. 5. [0125] is part of the description of FIG. 5. FIG. 5 shows two possible candidates for Applicant's aggregated records: level node 40 and detail node 44. Details of the level node are provided at Lore's [0091] and details of the detail node are provided at Lore's [0096].

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As is apparent from FIG. 5, [0125]'s "information about the number of aggregate records for each level" is contained in the level nodes, which, as is clear from [0091], contain a code for the aggregate level, the number of detail records that contribute to the level, and indexes to the aggregate nodes that contain the aggregate values for that level. As Examiner will immediately
10 see, the level node's number of detail records that contribute to the level is neither Applicant's "first field whose value is a metric value", where the value is "computed from a set of individual values of a field in the plurality of entries", nor Applicants' "second field whose value is a representation of the individual values". The level node's indexes to the aggregate nodes are also neither Applicant's "first field whose value is a metric value" nor Applicants'
15 "second field whose value is a representative of the individual values".

The other candidate is detail node 44, which embodies [0125]'s "list of aggregate records into which a given detail record needs to be aggregated". As shown in detail at [0096], the detail node has a key, an indication of the number of aggregates that the detail represented by the node
20 is to be included in, and indexes of the aggregate nodes for those aggregates. Again, the detail node's number of aggregates is neither Applicant's "first field whose value is a metric value" nor Applicants' "second field whose value is a representation of the individual values", and the same is the case with the detail node's indexes to the aggregate nodes.

25 Since neither level node 40 nor detail node 44 discloses anything like Applicant's "second field whose value is a representation of the individual values", the disclosure of Lore's [0125] does not support Examiner's rejection of claim 1. As for Lore's [0191], that location discusses Lore's "rolling cache". As set forth there, the "rolling cache" permits an "aggregation entry" to "perform aggregation based only on the input fact records that an aggregation entry has seen so
30 far in its life time in the memory cache". At most, the cited location discloses a technique for producing what Applicant terms the "metric value" of an aggregation entry. There is certainly no disclosure here of Applicants' "second field whose value is a representation of the individual values".

In her final rejection of 1/20/2010, Examiner finds that [0191] “teaches in detail the function of the aggregated entry which includes a field that represent the individual members and these members are specified along with their addresses”. With the best will in the world, Applicants’
5 attorney cannot find that teaching in [0191]; it is however apparent from Lore’s FIG. 5 and the discussion at [0083]-[0100] and particularly at [0097] that each detail record that is to be aggregated has associated with it indexes to the aggregate nodes “for which this detail is a constituent”, i.e., in which the value of this detail is used to compute the value contained in the aggregate node. Whatever else these indexes are, they are not claim 1’s “second field whose
10 value is a representation of the individual values”.

Since neither the disclosure of Lore’s [0125] nor the disclosure of Lore’s [0191] support Examiner’s *Response to Applicant’s argument*” in the Office action of Jan. 20, 2010, Applicant respectfully submits that the combination of Lore and Bakalash does not support Examiner’s
15 rejection of claim 1 under 35 U.S.C. 103. Examiner will immediately see that the arguments made above with regard to claim 1 apply equally to the other independent claim, claim 25. Because both independent claims are patentable over Lore and Bakalash, so are all of the dependent claims.

20 Conclusion

Applicants have demonstrated that the combination of Bakalash and Lore does not disclose all of the limitations of independent claims 1 and 25, and that all of the claims are consequently patentable over the references. That being the case, Applicants respectfully request that the Conferees either allow the claims or reopen prosecution. A *Notice of Appeal* was previously
25 filed in this application on 6/21/2007; a copy is attached. Since a *Notice* has already been filed, no fees are believed to be necessary for this *Request*. Should any be, please charge them to deposit account 501315.

Respectfully submitted,

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